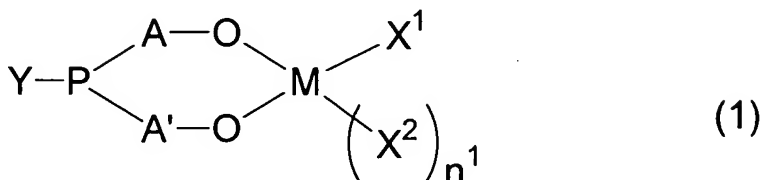


**AMENDMENTS TO THE CLAIMS**

1. (Original) A transition metal complex of formula (1):



wherein M represents an element of Group 6 of Periodic Table of Elements,

A and A' are the same or different and represent

a substituted or unsubstituted C1-10 alkylene group,

a substituted or unsubstituted C6-18 phenylene group,

a substituted or unsubstituted C10-20 naphthylene group, or

a silylene group substituted with substituted or unsubstituted C1-20 hydrocarbon,

Y represents a substituted or unsubstituted C1-10 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a silyl group substituted with substituted or unsubstituted C1-20 hydrocarbon,

X<sup>1</sup> and X<sup>2</sup> are the same or different and represent

a hydrogen atom, a halogen atom,

a substituted or unsubstituted C1-10 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a substituted or unsubstituted C1-10 alkoxy group,

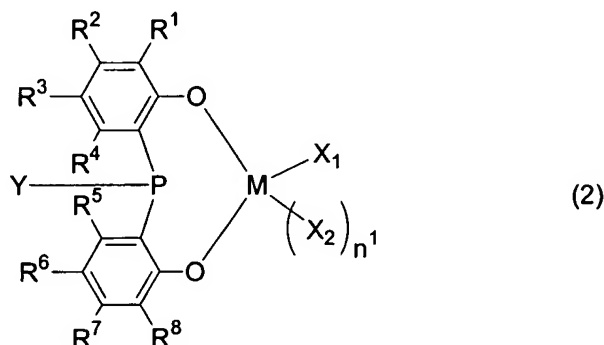
a substituted or unsubstituted C7-20 aralkyloxy group,

a substituted or unsubstituted C6-20 aryloxy group, or

an amino group disubstituted with C1-20 hydrocarbon, and  $n^1$  is an integer of 0 to 3.

2. (Original) The transition metal complex according to claim 1, wherein at least one of A and A' is a substituted or unsubstituted C6-20 phenylene group.

3. (Original) The transition metal complex according to claim 1, wherein the compound of formula (1) is a compound of formula (2):



wherein M represents an element of Group 6 of Periodic Table of Elements,

Y represents a substituted or unsubstituted C1-10 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a silyl group substituted with substituted or unsubstituted C1-20 hydrocarbon,

$R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are the same or different and represent a hydrogen atom, a halogen atom, an C1-10 alkyl group, an C1-10 alkoxyl group, or

a silyl group substituted with C1-20 hydrocarbon,

$X^1$  and  $X^2$  are the same or different, and represent a hydrogen atom, a halogen atom, a substituted or unsubstituted C1-10 alkyl group, a substituted or unsubstituted C7-20 aralkyl group, a substituted or unsubstituted C6-20 aryl group, a substituted or unsubstituted C1-10 alkoxy group, a substituted or unsubstituted C7-20 aralkyloxy group, a substituted or unsubstituted C6-20 aryloxy group, or an amino group disubstituted C1-20 hydrocarbon, and  $n^1$  is an integer of 0 to 3.

4. (Original) The transition metal complex according to any one of claims 1 to 3, wherein Y is a substituted or unsubstituted C1-10 alkyl group, or a substituted or unsubstituted C6-20 aryl group.

5. (Currently Amended) The transition metal complex according to ~~any one of claims 1 to 4~~ claim 1, wherein M is a chromium atom.

6. (Currently Amended) An olefin polymerization catalyst obtained by combining the transition metal complex as defined in ~~any one of claims 1 to 5~~ claim 1 with the following compound (A),

Compound (A): any one of the following compounds ( $A_1$ ) to ( $A_3$ ), or a mixture of two or more of them

(A<sub>1</sub>): an organic aluminum compound of formula  $(E_1)_aAl(Z')_{(3-a)}$ ,

(A<sub>2</sub>): cyclic aluminosiloxane having a structure of formula  $\{-Al(E_2)-O-\}_b$ ,

(A<sub>3</sub>): linear aluminosiloxane having a structure of formula  $(E_3)\{-Al(E_3)-O-\}_cAl(E_3)_2$

wherein E<sub>1</sub> to E<sub>3</sub> are the same or different, and represent a C1-8 hydrocarbon group, Z's are the same or different, and represent a hydrogen atom or a halogen atom, a represents 1, 2 or 3, b is an integer of 2 or more, and c represents an integer of 1 or more.

7. (Original) The olefin polymerization catalyst according to claim 6, which is obtained by further combining the following compound (B),

Compound (B): any one of the following compounds (B<sub>1</sub>) to (B<sub>3</sub>), or a mixture of two or more of them

(B<sub>1</sub>): a boron compound of formula  $BQ_1Q_2Q_3$ ,

(B<sub>2</sub>): a boron compound of formula  $Z^+(BQ_1Q_2Q_3Q_4)^-$ ,

(B<sub>3</sub>): a boron compound of formula  $(L-H)^+(BQ_1Q_2Q_3Q_4)^-$ ,

wherein B is a trivalent boron atom, Q<sub>1</sub> to Q<sub>4</sub> are the same or different and represent a halogen atom, a C1-20 hydrocarbon group, a halogenated C1-20 hydrocarbon group, a silyl group substituted with C1-20 hydrocarbon, an C1-20 alkoxy group, or an amino group disubstituted with C1-20 hydrocarbon, Z<sup>+</sup> represents an inorganic or organic cation, and L represents a neutral Lewis base.

8. (Original) The olefin polymerization catalyst according to claim 6 or 7, wherein the transition metal complex is a reaction product obtained by reacting a compound of formula (3):



wherein A and A' are the same or different, and represent

a substituted or unsubstituted C1-10 alkylene group,

a substituted or unsubstituted C6-18 phenylene group,

a substituted or unsubstituted C10-20 naphthylene group, or

a silylene group substituted with substituted or unsubstituted C1-20 hydrocarbon,

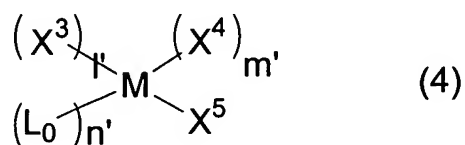
Y represents a substituted or unsubstituted C1-20 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a substituted or unsubstituted silyl group substituted with C1-20 hydrocarbon, with

a transition metal compound of formula (4):



wherein M represents an element of Group 6 of Periodic Table of Elements,

X<sup>3</sup>, X<sup>4</sup> and X<sup>5</sup> are the same or different, and represent a hydrogen atom, a halogen atom,

a substituted or unsubstituted C1-10 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a substituted or unsubstituted C1-10 alkoxy group,

a substituted or unsubstituted C7-20 aralkyloxy group,

a substituted or unsubstituted C6-20 aryloxy group, or

an amino group disubstituted with C1-20 hydrocarbon,

$L_0$  represents a neutral ligand selected from ether, sulfide, amine, phosphine, or olefin,

and  $l'$ ,  $m'$ , and  $n'$  represent independently an integer of 0 to 2.

9. (Original) The olefin polymerization catalyst according to claim 8, wherein the molar ratio of the compound of formula (3) and the transition metal compound of formula (4) is 1:0.1 to 1:10.

10. (Currently Amended) A process for preparing an olefin polymer, which comprises polymerizing olefin utilizing an olefin polymerization catalyst as defined in ~~any one of claims 6 to 9~~ claim 6.

11. (Original) A process for preparing a transition metal complex of formula (1) as defined in claim 1, which comprises reacting a compound of formula (3):



wherein A and A' are the same or different, and represent

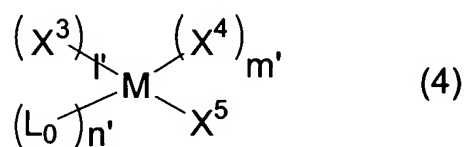
a substituted or unsubstituted C1-10 alkylene group,

a substituted or unsubstituted C6-18 phenylene group,

a substituted or unsubstituted C10-20 naphthylene group, or

a silylene group substituted with substituted or unsubstituted C1-20 hydrocarbon,

Y represents a substituted or unsubstituted C1-10 alkyl group,  
a substituted or unsubstituted C7-20 aralkyl group,  
a substituted or unsubstituted C6-20 aryl group,  
a silyl group substituted with substituted or unsubstituted C1-20 hydrocarbon, with  
a transition metal compound of formula (4):



wherein M represents an element of Group 6 of Periodic Table of Elements,

$X^3$ ,  $X^4$  and  $X^5$  are the same or different, and represent a hydrogen atom, a halogen atom,

a substituted or unsubstituted C1-10 alkyl group,

a substituted or unsubstituted C7-20 aralkyl group,

a substituted or unsubstituted C6-20 aryl group,

a substituted or unsubstituted C1-10 alkoxy group,

a substituted or unsubstituted C7-20 aralkyloxy group,

a substituted or unsubstituted C6-20 aryloxy group, or

an amino group disubstituted with C1-20 hydrocarbon,

$L_0$  represents a neutral ligand selected from ether, sulfide, amine, phosphine or olefin,

and  $l'$ ,  $m'$  and  $n'$  represent independently an integer of 0 to 2.